

Remarks/Arguments:

Applicants thank the Examiner for the allowance of claims 36-52.

Claim Rejections Under 35 USC § 102

Claims 1, 2, 4-9, 11, 12, 14-18, 20, 21, 23-30 and 32-35 stand rejected under 35 U.S.C. 102(b) as anticipated by US Patent No. 6,550,734 (Spadea). Claims 1, 3, 11, 13 and 29-31 stand rejected under 35 U.S.C. 102(b) as anticipated by US Publication No. 2003/0080269 (Oddsen). Applicant traverses these rejections.

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." M.P.E.P. §2131 citing Verdegaal Bros. v. Union Oil Co. of California, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987).

Claims 1-10

Independent claim 1 recites "[a]n apparatus for manipulating a load, said apparatus comprising: a first support structure for supporting the load for first linear movement over a first range parallel to an axis of the first support; a second support structure for supporting the load for second linear movement independent of the first linear movement over a second range; and a coupling coupled between said first support structure and said second support structure, said coupling including a compliant mechanism for providing a compliant range of motion to the load about a rotative axis where a center of gravity of the load is located away from said rotative axis, said rotative axis being a non-vertical axis."

With respect to Spadea, the Office Action cites to elements 21 and 25 as equivalent to the claimed first and second support structures, respectively, and elements 13, 14 as equivalent to the claimed coupling. The lower boom 25 and lower counterbalance arm 21 are each pivotally connected at one end to the plates 13, 14 and at the other end to the plates 38, 39. As such, the lower boom 25 and the counterbalance arm 21 have an interrelated pivotal movement. The counterbalance arm 21 does not support a load for first linear movement over a first range parallel to an axis of the counterbalance arm 21 and the lower boom 25 does not support a load for second linear movement independent of the first linear movement over a second range. It is respectfully submitted that Spadea fails to describe, teach or suggest each limitation of the invention recited in claim 1.

Turning to Oddsen, the Office Action cites to elements 104 and 106 as equivalent to the claimed first and second support structures, respectively, and elements 102, 108 (the Office Action indicates element 122 (which is the gas spring identified in the action as equivalent to the compliance mechanism), but it appears that this number should have been the second end cap 108) as equivalent to the claimed coupling. Oddsen explains in paragraph [0038] that:

[t]he upper channel 104 includes a U-shaped body 130 and integrally cast rollers 132 disposed at opposite ends of the U-shaped body 130. Each of the rollers 132 is configured to be pivotably attached to a respective one of the first end cap 102 and the second end cap 108 with, for example, the pins 118. The lower channel 106 also includes a U-shaped body 134 and integrally cast rollers 136 disposed at opposite ends of the U-shaped body 134. Each of the rollers 136 is configured to be pivotably attached to a respective one of the first end cap 102 and the second end cap 108 with, for example, the pins 118.

Similar to Spadea, the upper channel 104 and the lower channel 106 have an interrelated pivotal movement. The upper channel 104 does not support a load for first linear movement over a first range parallel to an axis of the upper channel 104 and the lower channel 106 does not support a load for second linear movement independent of the first linear movement over a second range. It is respectfully submitted that Oddsen fails to describe, teach or suggest each limitation of the invention recited in claim 1.

It is respectfully submitted that independent claim 1 is condition for allowance. Claims 2-10 each depend from claim 1 and are allowable for at least the reasons set forth above with respect to claim 1.

Claims 11-19

Independent claim 11 recites “[a] method of manipulating a load, said method comprising the steps of: providing a first support structure for supporting the load for first linear movement over a first range parallel to an axis of the first support; rotatively coupling the first support structure to a second support structure for supporting the load about a rotative axis such that a center of gravity of the load is located away from the rotative axis, the rotative axis being a non-vertical axis, and the second support structure supporting the load for second linear movement independent of the first linear movement over a second range; providing a compliant range of motion to the load about the rotative axis; and manipulating the load about the rotative axis using the compliant range of motion.”

The Office Action indicates that “since the method is predicated on the structure, the method is inherently taught by Spadea” or Oddsen. As explained above, neither Spadea or

Oddsen describe, teach or suggest providing a first support member for supporting the load for first linear movement over a first range parallel to an axis of the first support and also a second support structure supporting the load for second linear movement independent of the first linear movement over a second range. It is respectfully submitted that Spadea and Oddsen both fail to describe, teach or suggest each limitation of the invention recited in claim 11.

It is respectfully submitted that independent claim 11 is condition for allowance. Claims 12-19 each depend from claim 11 and are allowable for at least the reasons set forth above with respect to claim 11.

Claims 20-28

Independent claims 20 recites "[a]n apparatus for manipulating a load, said apparatus comprising: a first support structure extending substantially vertically from a base and providing the load with a first substantially vertical range of motion; a second support structure for supporting the load, said second support structure providing the load with a second substantially vertical range of motion relative to said first substantially vertical range of motion; and a coupling between said first support structure and said second support structure such that the second support structure is supported relative to the first support structure, said coupling providing at least one additional range of motion to the load in a direction or about an axis, the additional range of motion not being in a substantially vertical direction."

The Office Action cites to Spadea elements 21 and 25 as equivalent to the claimed first and second support structures, respectively, and elements 13, 14 as equivalent to the claimed coupling. The counterbalance arm 21 does not extend substantially vertically from a base nor provide the load with a first substantially vertical range of motion. To the contrary, the counterbalance arm 21 is pivotally attached to the plate 13 and generally extends at an angle other than vertical as illustrated in Fig. 1. If the counterbalance arm 21 were retained in a vertical position, it would not facilitate any movement of the load as the counterbalance arm 21 only facilitates movement through pivoting.

Furthermore, as explained above, the lower boom 25 and the counterbalance arm 21 have an interrelated pivotal movement. Contrary to the claimed invention, the lower boom 25 does not provide a second substantially vertical range of motion relative to any range of motion provided by the counterbalance arm 21. It is respectfully submitted that Spadea fails to describe, teach or suggest each limitation of the invention recited in claim 20.

It is noted that Oddsen was not cited against claim 20, but was cited against method claim 29. Applicants respectfully submit that Oddsen does not teach a first support extending substantially vertically from a base and providing the load with a first substantially vertical range of motion. Furthermore, as with Spadea, the upper and lower channels 104 and 106 have an interrelated pivotal movement. Contrary to the claimed invention, the lower channel 106 does not provide a second substantially vertical range of motion relative to any range of motion provided by the lower channel 106. It is respectfully submitted that Oddsen fails to describe, teach or suggest each limitation of the invention recited in claim 20.

It is respectfully submitted that independent claim 20 is condition for allowance. Claims 21-28 each depend from claim 20 and are allowable for at least the reasons set forth above with respect to claim 20.

Claims 29-35

Independent claim 29 recites "[a] method of manipulating a load, said method comprising the steps of: moving the load to a first position within a first substantially vertical range of motion of the load, the first substantially vertical range of motion being provided by a first support structure extending substantially vertically from a base; moving the load to a second position within a second substantially vertical range of motion of the load relative to the first substantially vertical range of motion, the second substantially vertical range of motion being provided by a second support structure; and providing a coupling between the first support structure and the second support structure such that the second support structure is supported relative to the first support structure, the coupling providing an additional range of motion to the load in a direction or about an axis, the additional range of motion not being in a substantially vertical direction."

The Office Action indicates that "since the method is predicated on the structure, the method is inherently taught by Spadea" or Oddsen. As explained above, neither Spadea or Oddsen describe, teach or suggest moving the load to a first position within a first substantially vertical range of motion of the load, the first substantially vertical range of motion being provided by a first support structure extending substantially vertically from a base. Furthermore, the cited references do not describe, teach or suggest moving the load via a second support member to a second position within a second substantially vertical range of motion of the load relative to the first substantially vertical range of motion. It is respectfully submitted that Spadea and Oddsen both fail to describe, teach or suggest each limitation of the invention recited in claim 29.

It is respectfully submitted that independent claim 29 is condition for allowance. Claims 30-35 each depend from claim 29 and are allowable for at least the reasons set forth above with respect to claim 29.

It is respectfully submitted that each of the pending claims is in condition for allowance. Early reconsideration and allowance of each of the pending claims are respectfully requested.

If the Examiner believes an interview, either personal or telephonic, will advance the prosecution of this matter, the Examiner is invited to contact the undersigned to arrange the same.

Respectfully submitted,



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